ABSTRACT

In the calculus of variations Euler and Lagrange found a systematic way to solve problems in the field by introducing a method i.e Euler-Lagrange method. In addition, to solve problems in calculus of variations by using Euler-Lagrange method, there is also another method that can be used to solve the problems in the calculus variations. George Leitmann introduces a method of transformation from a problem in calculus of variation into a variational equivalence that is Leitmann equivalence method.

This research is devoted to assess the equivalence of Leitmann approach associated with classical calculus of variations to solve the problem of sufficient conditions. In addition, we will examine some case studies of classical sufficient conditions problems using Leitmann case study.

Keywords: calculus of variations, sufficient conditions, Leitmann transformation.